

Research Paper

The Effectiveness of Mindfulness-Based Cognitive Therapy on Ruminative Thoughts, Perceived Stress and Difficulties in Emotion Regulation of Women With Type 2 Diabetes



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ABSTRACT

Objectives This study aimed to investigate the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on ruminative thoughts, perceived stress and difficulties in emotion regulation of women with type 2 diabetes.

Methods This quasi-experimental study was carried out using pre-test and post-test design with a control group and a one-step follow-up. Out of all patients with type 2 diabetes and members of the Public Sports Organization of North Khorasan Province, Iran in 2016, 30 individuals were selected via convenience sampling method and randomly assigned to experimental and control groups. Patients of the experimental group participated in eight 120-minute sessions once per week of MBCT. The study data were obtained by using ruminative responses scale, perceived stress scale and difficulties in emotion regulation scale.

Results Results of analysis of variance with repeated measures indicated that MBCT leads to significant decrease in ruminative thoughts ($P \leq 0.01$) and difficulties in emotion regulation expect for the knowledge subscale ($P \leq 0.01$) in the follow up and in perceived stress ($P \leq 0.01$) in post-test.

Conclusion Mindfulness-based cognitive therapy decreases the ruminative thoughts, difficulties in emotion regulation and perceived stress in women with type 2 diabetes.

Extended Abstract

1. Introduction

Diabetes mellitus is one of the most common non-communicable metabolic disorders around the world with a high mortality. Since the disease has many complications

such as fluctuations in blood glucose, limb amputations, blindness, and so on, it becomes the source of depression, anxiety, stress and emotional disturbances in patients. These problems can lead to exacerbations of physical symptoms and injuries in self-care behaviors of patients. Therapists use multiple therapy methods to improve the mental condition of such patients, including Mindfulness-Based Cognitive Therapy (MBCT).

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In this treatment method, attention is focused on what is happening in the present and one understands the internal and external realities freely and without distortion. This causes the person to be free from the false chain of mental ruminations and to face a different way of emotion. This way of thinking leads to health joint outcomes such as the decrease in anxiety, depression and stress. MBCT is applicable on both individual and group patients. Thus, this research aims to investigate the effectiveness of MBCT on perceived stress, the rumination and difficulties in emotion regulation in women with type 2 diabetes.

2. Method

This quasi-experimental study was carried out using a pre-test and post-test design with a control group and a follow-up period of three months. Of all women with type 2 diabetes, who were member of the Public Sports Organization of North Khorasan Province in 2017, 30 people aged 30-67 years on the basis of written consent form, were recruited using convenience sampling method and randomly (using random numbers table) assigned in two groups of MBCT and control group. These patients were evaluated by clinical psychologist to measure the inclusion criteria based on Structured Clinical Interview for Diagnosis (SCID-I). After performing a pre-test, patients in the experimental group attended eight 120-minute sessions of MBCT once per week, based on cognitive therapy protocol of Mindfulness for Depression Disorder. The study data were obtained by perceived stress scale, ruminative responses scale, and difficulties in emotion regulation scale in three stages of pre-test, post-test and three-month follow-up. Analysis of results was done using 2-way repeated measures analysis and 2-way multivariate repeated measures analysis.

3. Results

Results of the mean scores of study variables in the post-test and follow-up stage were respectively as follows: 38.92 and 45.25 for rumination, 17.18 and 17.24 for the perceived stress scale, 9.89 and 13.83 for the subscale of non-acceptance of emotional response (non-accept), 8.83 and 11.83 for the subscale of the difficulty engaging in goal-directed behavior (goals), 9.83 and 12.25 for the subscale of the impulse control difficulties (impulse), 15 and 16 for the lack of emotional awareness (awareness) subscale, 12.5 and 16 for the subscale of the limited access to emotion regulation strategies (strategies), and 8.92 and 10.67 for the lack of emotional clarity (clarity) subscale.

These changes, except for the awareness subscale, are significant compared to the pre-test. The values of interactive test effect and group membership on mental rumination are

0.46 and 0.55, respectively. The values of test interactive effect and group membership on perceived stress are 0.55 and 0.62, respectively and the values of interactive test effect and group membership for the difficulties in emotion regulation subscales (non-accept, goals, impulse, strategies and clarity) are 0.46, 0.52, 0.44, 0.51, and 0.28, respectively. The test power is also at the high level. The results of variance analysis with repeated measures also indicate that MBCT has decreased patients' scores in the post-test with regard to mental ruminants ($P \leq 0.01$) and the difficulties in emotion regulation except the awareness subscale ($P \leq 0.01$) in three months' follow-up and perceived stress ($P \leq 0.01$); also the difference between the experimental and control groups is statistically significant.

4. Discussion

Diabetes occurs when the glucose regulation system is disrupted in the body. Failure to adhere to treatment can lead to undesirable metabolic control in diabetes. These complications, in addition to imposing high economic costs on families and society, lead to many psychological problems such as anxiety, depression and stress. Different research studies have shown the success of mindfulness-based cognitive therapy in improving the physical and psychological conditions of these patients. The higher prevalence of depression in diabetic patients than in the normal population is associated with physical symptoms in this disorder. One of the important characteristics of depression is rumination. This treatment focuses on instantaneous awareness of thoughts, feelings, and physical states, and will lead to the discontinuation of the mental rumination chain and prevent the individual's focus on the past or the future. In addition, the use of yoga exercises, meditation techniques, and muscle relaxation in this treatment can reduce stress in patients.

In this study, the stress scores of patients in post-test and follow-up stages show the effects of this treatment. Based on the results of various research studies, MBCT makes people flexible in developing different emotions during difficult situations. In the present study, the significant reduction of scores in "the difficulties in emotion regulation" has confirmed the previous results in this area. Finally, MBCT is effective in reducing the ruminative thoughts, perceived stress and the difficulties in emotion regulation in women with type 2 diabetes.

Ethical Considerations

Compliance with ethical guidelines

After explaining the research objectives for the patients, their consent was taken to participate in the research, and

they were assured of the confidentiality of the information and the eligibility to participate in the research.

This study is a registered clinical trial (code: IRCT2017071515754N2), and has been approved by the Ethics Committee of Islamic University of Bojnurd branch (code: IR.IAU.BOJNOURD.REC.1396.1). Written consent was obtained from all patients and they were assured of the confidentiality of their information.

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Authors contributions

The authors contributions is as follows: Conceptualization, methodology, editing, and project administration: all authors; Validation, formal analysis, investigation, resource, drafting and Funding: Bibi Zohreh Razavizadeh Tabadkan; and supervision by Mahmoud Jajarmi and Yaghoob Vakili.

Conflict of interest

The authors declared no conflict of interest.

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